

CLAIMS

What is claimed is:

1. A method, comprising:
 - requesting an operating system to place a computer system in a hibernation mode;
 - gathering a state of the computer system;
 - storing the system state to a first non-volatile memory, and
 - storing the system state to a second non-volatile memory.
2. The method of claim 1, wherein the state of the computer system is gathered by the operating system.
3. The method of claim 1, wherein the first non-volatile memory has a storage capacity between 50-2000 megabytes, wherein the second non-volatile memory has a greater storage capacity than the first non-volatile memory.
4. The method of claim 3, wherein the first non-volatile memory is logically coupled to a second non-volatile memory.
5. The method of claim 1, further comprising:
 - powering off the computer system.
6. The method of claim 5, further comprising:
 - powering on the computer system; and
 - loading the system state from the first non-volatile memory.
7. The method of claim 1, wherein the system state comprises contents of a central processing unit.

8. A method, comprising:

- requesting that a computer system be placed in a hibernation mode;
- writing a state of the system to a hard disk drive having a non-volatile memory cache; and
- storing the state of the system to the hard disk drive cache.

9. The method of claim 8, further comprising:

- requesting data from the cache to restore the state of the system after hibernation.

10. The method of claim 8, wherein the computer system is a mobile computer system.

11. The method of claim 8, wherein the computer system is a desktop computer system.

12. A method, comprising:

- requesting that a computer system having a non-volatile memory coupled to a hard disk drive be placed in a hibernation mode;
- determining an address location of the non-volatile memory; and
- writing contents of a central processing unit to the non-volatile memory.

13. The method of claim 12, further comprising:

- writing contents of an operating system to the non-volatile memory.

14. The method of claim 12, further comprising:

- writing contents of a random access memory to the non-volatile memory.

15. The method of claim 12, further comprising:
powering off the computer system.
16. The method of claim 15, further comprising:
awakening the computer system from the hibernation mode; and
initiating a load sequence from the non-volatile memory to restore the
system to the contents of the central processing unit.
17. The method of claim 16, further comprising:
restoring the contents of the operating system.
18. The method of claim 16, further comprising:
restoring the contents of the random access memory.
19. The method of claim 12, wherein the non-volatile memory is separately
addressable from a secondary memory.
20. A system, comprising:
a central processing unit (CPU);
a main memory coupled to the CPU, wherein the main memory stores
data to be manipulated by the CPU;
a first non-volatile memory coupled to the main memory, wherein the data
of the main memory is stored to the first non-volatile memory if the system is
placed in a hibernation mode; and
a second non-volatile memory coupled to the first non-volatile memory,
wherein the second non-volatile memory has a greater storage capacity than the
first non-volatile memory.

21. The system of claim 20, wherein a state of the CPU is stored to the first non-volatile memory if the system is placed in a hibernation mode.

22. The system of claim 21, wherein the state of the CPU is restored from the first non-volatile memory when the system is awoken from the hibernation mode.

23. The system of claim 21, wherein the data of the main memory and the state of the CPU is stored to the second non-volatile memory.

24. The system of claim 20, further comprising:

a driver coupled to the main memory and the first non-volatile memory, wherein the driver writes data of the main memory to the first non-volatile memory.

25. The system of claim 20, wherein the system is a mobile computer.

26. A computer, comprising:

means for storing a state of the computer to a non-volatile memory before power down; and

means for loading the state of the computer from the non-volatile memory.

27. The computer of claim 26, further comprising:

means for accessing the non-volatile memory.

28. The computer of claim 26, further comprising:

means for reducing power up time of the computer after being placed in a hibernation mode.

29. The computer of claim 26, further comprising:

means for reducing power consumption of the computer.

30. An article comprising a machine readable medium having a plurality of machine readable instructions, wherein when the instructions are executed by a processor, the instructions cause a system to:

write contents of a central processing unit (CPU) to a non-volatile memory that is coupled to a hard disk drive prior to being placed in a hibernation mode;
and

write data from a random access memory to the non-volatile memory prior to being placed in the hibernation mode.

31. The article of claim 30, comprising a machine readable medium having a plurality of machine readable instructions, wherein when the instructions are executed by a processor, the instructions further cause a system to:

write the contents of the CPU to the hard disk drive using a transparent write-through process.

32. The article of claim 30, comprising a machine readable medium having a plurality of machine readable instructions, wherein when the instructions are executed by a processor, the instructions further cause a system to:

initiate a load sequence from the non-volatile memory after being awoken from the hibernation mode.

33. The article of claim 31, comprising a machine readable medium having a plurality of machine readable instructions, wherein when the instructions are executed by a processor, the instructions further cause a system to:

restore the CPU contents.